

Federal Communications Commission

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Drive, Ann Arbor, MI 48108, 1-800-699-9277, <http://www.techstreet.com/ieee>.

(1) ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,” ANSI approved June 13, 2014, IBR approved for §15.31(a)(4), except clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13.

(2) ANSI C63.10-2013, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices,” ANSI approved June 27, 2013, IBR approved for §15.31(a)(3).

(g) The following documents are available from the following addresses: Society of Cable Telecommunications Engineers (SCTE) c/o Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112 or the American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036 or at <http://www.scte.org/standards/index.cfm>;

(1) SCTE 28 2003 (formerly DVS 295): “Host-POD Interface Standard,” 2003, IBR approved for §15.123.

(2) SCTE 40 2003 (formerly DVS 313): “Digital Cable Network Interface Standard,” 2003, IBR approved for §15.123.

(3) SCTE 41 2003 (formerly DVS 301): “POD Copy Protection System,” 2003, IBR approved for §15.123.

(4) ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television,” 2003, IBR approved for §15.123.

(5) ANSI/SCTE 65 2002 (formerly DVS 234): “Service Information Delivered Out-of-Band for Digital Cable Television,” 2002, IBR approved for §15.123.

[77 FR 43013, July 23, 2012, as amended at 80 FR 2838, Jan. 21, 2015; 80 FR 33447, June 12, 2015]

Subpart B—Unintentional Radiators

§ 15.101 Equipment authorization of unintentional radiators.

(a) Except as otherwise exempted in §§15.23, 15.103, and 15.113, unintentional radiators shall be authorized prior to the initiation of marketing, as follows:

Type of device	Equipment authorization required
TV broadcast receiver	Verification.
FM broadcast receiver	Verification.
CB receiver	Declaration of Conformity or Certification.
Superregenerative receiver	Declaration of Conformity or Certification.
Scanning receiver	Certification.
Radar detector	Certification.
All other receivers subject to part 15	Declaration of Conformity or Certification.
TV interface device	Declaration of Conformity or Certification.
Cable system terminal device	Declaration of Conformity.
Stand-alone cable input selector switch	Verification.
Class B personal computers and peripherals	Declaration of Conformity or Certification. ¹
CPU boards and internal power supplies used with Class B personal computers.	Declaration of Conformity or Certification. ¹
Class B personal computers assembled using authorized CPU boards or power supplies.	Declaration of Conformity.
Class B external switching power supplies	Verification.
Other Class B digital devices & peripherals	Verification.
Class A digital devices, peripherals & external switching power supplies.	Verification.
Access Broadband over Power Line (Access BPL)	Certification.
All other devices	Verification.

(b) Only those receivers that operate (tune) within the frequency range of 30–960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of this section. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of

which is subject to certification, shall be authorized under the verification procedure. Receivers operating above 960 MHz or below 30 MHz, except for radar detectors and CB receivers, are exempt from complying with the technical provisions of this part but are subject to §15.5.

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(c) Personal computers shall be authorized in accordance with one of the following methods:

(1) The specific combination of CPU board, power supply and enclosure is tested together and authorized under a Declaration of Conformity or a grant of certification;

(2) The personal computer is authorized under a Declaration of Conformity or a grant of certification, and the CPU board or power supply in that computer is replaced with a CPU board or power supply that has been separately authorized under a Declaration of Conformity or a grant of certification; or

(3) The CPU board and power supply used in the assembly of a personal computer have been separately authorized under a Declaration of Conformity or a grant of certification; and

(4) Personal computers assembled using either of the methods specified in paragraphs (c)(2) or (c)(3) of this section must, by themselves, also be authorized under a Declaration of Conformity if they are marketed. However, additional testing is not required for this Declaration of Conformity, provided the procedures in §15.102(b) are followed.

(d) Peripheral devices, as defined in §15.3(r), shall be authorized under a Declaration of Conformity, or a grant of certification, or verified, as appropriate, prior to marketing. Regardless of the provisions of paragraphs (a) or (c) of this section, if a CPU board, power supply, or peripheral device will always be marketed with a specific personal computer, it is not necessary to obtain a separate authorization for that product provided the specific combination of personal computer, peripheral device, CPU board and power supply has been authorized under a Declaration of Conformity or a grant of certification as a personal computer.

(1) No authorization is required for a peripheral device or a subassembly that is sold to an equipment manufacturer for further fabrication; that manufacturer is responsible for obtaining the necessary authorization prior to further marketing to a vendor or to a user.

(2) Power supplies and CPU boards that have not been separately authorized and are designed for use with per-

sonal computers may be imported and marketed only to a personal computer equipment manufacturer that has indicated, in writing, to the seller or importer that they will obtain a Declaration of Conformity or a grant of certification for the personal computer employing these components.

(e) Subassemblies to digital devices are not subject to the technical standards in this part unless they are marketed as part of a system in which case the resulting system must comply with the applicable regulations. Subassemblies include:

(1) Devices that are enclosed solely within the enclosure housing the digital device, except for: power supplies used in personal computers; devices included under the definition of a peripheral device in §15.3(r); and personal computer CPU boards, as defined in §15.3(bb);

(2) CPU boards, as defined in §15.3(bb), other than those used in personal computers, that are marketed without an enclosure or power supply; and

(3) Switching power supplies that are separately marketed and are solely for use internal to a device other than a personal computer.

(f) The procedures for obtaining a grant of certification or notification and for verification and a Declaration of Conformity are contained in subpart J of part 2 of this chapter.

[54 FR 17714, Apr. 25, 1989, as amended at 61 FR 31050, June 19, 1996; 63 FR 36602, July 7, 1998; 64 FR 4997, Feb. 2, 1999; 67 FR 48993, July 29, 2002; 70 FR 1373, Jan. 7, 2005]

§15.102 CPU boards and power supplies used in personal computers.

(a) Authorized CPU boards and power supplies that are sold as separate components shall be supplied with complete installation instructions. These instructions shall specify all of the installation procedures that must be followed to ensure compliance with the standards, including, if necessary, the type of enclosure, e.g., a metal enclosure, proper grounding techniques, the use of shielded cables, the addition of any needed components, and any necessary modifications to additional components.

(1) Any additional parts needed to ensure compliance with the standards, except for the enclosure, are considered to be special accessories and, in accordance with §15.27, must be marketed with the CPU board or power supply.

(2) Any modifications that must be made to a personal computer, peripheral device, CPU board or power supply during installation of a CPU board or power supply must be simple enough that they can be performed by the average consumer. Parts requiring soldering, disassembly of circuitry or other similar modifications are not permitted.

(b) Assemblers of personal computer systems employing modular CPU boards and/or power supplies are not required to test the resulting system provided the following conditions are met:

(1) Each device used in the system has been authorized as required under this part (according to §15.101(e), some subassemblies used in a personal computer system may not require an authorization);

(2) The original label and identification on each piece of equipment remain unchanged;

(3) Each responsible party's instructions to ensure compliance (including, if necessary, the use of shielded cables or other accessories or modifications) are followed when the system is assembled;

(4) If the system is marketed, the resulting equipment combination is authorized under a Declaration of Conformity pursuant to §15.101(c)(4) and a compliance information statement, as described in §2.1077(b), is supplied with the system. Marketed systems shall also comply with the labelling requirements in §15.19 and must be supplied with the information required under §§15.21, 15.27 and 15.105; and

(5) The assembler of a personal computer system may be required to test the system and/or make necessary modifications if a system is found to cause harmful interference or to be noncompliant with the appropriate standards in the configuration in which it is marketed (see §§2.909, 15.1, 15.27(d) and 15.101(e)).

[61 FR 31050, June 19, 1996]

§ 15.103 Exempted devices.

The following devices are subject only to the general conditions of operation in §§15.5 and 15.29 and are exempt from the specific technical standards and other requirements contained in this part. The operator of the exempted device shall be required to stop operating the device upon a finding by the Commission or its representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected. Although not mandatory, it is strongly recommended that the manufacturer of an exempted device endeavor to have the device meet the specific technical standards in this part.

(a) A digital device utilized exclusively in any transportation vehicle including motor vehicles and aircraft.

(b) A digital device used exclusively as an electronic control or power system utilized by a public utility or in an industrial plant. The term *public utility* includes equipment only to the extent that it is in a dedicated building or large room owned or leased by the utility and does not extend to equipment installed in a subscriber's facility.

(c) A digital device used exclusively as industrial, commercial, or medical test equipment.

(d) A digital device utilized exclusively in an appliance, e.g., microwave oven, dishwasher, clothes dryer, air conditioner (central or window), etc.

(e) Specialized medical digital devices (generally used at the direction of or under the supervision of a licensed health care practitioner) whether used in a patient's home or a health care facility. Non-specialized medical devices, *i.e.*, devices marketed through retail channels for use by the general public, are not exempted. This exemption also does not apply to digital devices used for record keeping or any purpose not directly connected with medical treatment.

(f) Digital devices that have a power consumption not exceeding 6 nW.

(g) Joystick controllers or similar devices, such as a mouse, used with digital devices but which contain only non-digital circuitry or a simple circuit to convert the signal to the format required (e.g., an integrated circuit for

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analog to digital conversion) are viewed as passive add-on devices, not themselves directly subject to the technical standards or the equipment authorization requirements.

(h) Digital devices in which both the highest frequency generated and the highest frequency used are less than 1.705 MHz and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Digital devices that include, or make provision for the use of, battery eliminators, AC adaptors or battery chargers which permit operation while charging or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, do not fall under this exemption.

(i) Responsible parties should note that equipment containing more than one device is not exempt from the technical standards in this part unless all of the devices in the equipment meet the criteria for exemption. If only one of the included devices qualifies for exemption, the remainder of the equipment must comply with any applicable regulations. If a device performs more than one function and all of those functions do not meet the criteria for exemption, the device does not qualify for inclusion under the exemptions.

§ 15.105 Information to the user.

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(c) The provisions of paragraphs (a) and (b) of this section do not apply to digital devices exempted from the technical standards under the provisions of § 15.103.

(d) For systems incorporating several digital devices, the statement shown in paragraph (a) or (b) of this section needs to be contained only in the instruction manual for the main control unit.

(e) In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

[54 FR 17714, Apr. 25, 1989, as amended at 68 FR 68546, Dec. 9, 2003]

§ 15.107 Conducted limits.

(a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage

that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

*Decreases with the logarithm of the frequency.

(b) For a Class A digital device that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms LISN. Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	79	66
0.5–30	73	60

(c) The limits shown in paragraphs (a) and (b) of this section shall not apply to carrier current systems operating as unintentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535–1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 μV within the frequency

band 535–1705 kHz, as measured using a 50 μH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits in § 15.109(e).

(d) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

[54 FR 17714, Apr. 25, 1989, as amended at 57 FR 33448, July 29, 1992; 58 FR 51249, Oct. 1, 1993; 66 FR 19098, Apr. 13, 2001; 67 FR 45670, July 10, 2002]

§ 15.109 Radiated emission limits.

(a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30–88	100
88–216	150
216–960	200
Above 960	500

(b) The field strength of radiated emissions from a Class A digital device, as determined at a distance of 10 meters, shall not exceed the following:

Frequency of emission (MHz)	Field strength (microvolts/meter)
30–88	90
88–216	150
216–960	210
Above 960	300

(c) In the emission tables above, the tighter limit applies at the band edges. Sections 15.33 and 15.35 which specify the frequency range over which radiated emissions are to be measured and

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the detector functions and other measurement standards apply.

(d) For CB receivers, the field strength of radiated emissions within the frequency range of 25–30 MHz shall not exceed 40 microvolts/meter at a distance of 3 meters. The field strength of radiated emissions above 30 MHz from such devices shall comply with the limits in paragraph (a) of this section.

(e) Carrier current systems used as unintentional radiators or other unintentional radiators that are designed to conduct their radio frequency emissions via connecting wires or cables and that operate in the frequency range of 9 kHz to 30 MHz, including devices that deliver the radio frequency energy to transducers, such as ultrasonic devices not covered under part 18 of this chapter, shall comply with the radiated emission limits for intentional radiators provided in §15.209 for the frequency range of 9 kHz to 30 MHz. As an alternative, carrier current systems used as unintentional radiators and operating in the frequency range of 525 kHz to 1705 kHz may comply with the radiated emission limits provided in §15.221(a). At frequencies above 30 MHz, the limits in paragraph (a), (b), or (g) of this section, as appropriate, apply.

(f) For a receiver which employs terminals for the connection of an external receiving antenna, the receiver shall be tested to demonstrate compliance with the provisions of this section with an antenna connected to the antenna terminals unless the antenna conducted power is measured as specified in §15.111(a). If a permanently attached receiving antenna is used, the receiver shall be tested to demonstrate compliance with the provisions of this section.

(g) As an alternative to the radiated emission limits shown in paragraphs (a) and (b) of this section, digital devices may be shown to comply with the standards contained in Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, “Information Technology Equipment—Radio Disturbance Characteristics—Limits and Methods of Measurement” (incorporated by reference, see §15.38). In addition:

(1) The test procedure and other requirements specified in this part shall continue to apply to digital devices.

(2) If, in accordance with §15.33 of this part, measurements must be performed above 1000 MHz, compliance above 1000 MHz shall be demonstrated with the emission limit in paragraph (a) or (b) of this section, as appropriate. Measurements above 1000 MHz may be performed at the distance specified in the CISPR 22 publications for measurements below 1000 MHz provided the limits in paragraphs (a) and (b) of this section are extrapolated to the new measurement distance using an inverse linear distance extrapolation factor (20 dB/decade), e.g., the radiated limit above 1000 MHz for a Class B digital device is 150 uV/m, as measured at a distance of 10 meters.

(3) The measurement distances shown in CISPR Pub. 22, including measurements made in accordance with this paragraph above 1000 MHz, are considered, for the purpose of §15.31(f)(4) of this part, to be the measurement distances specified in this part.

(h) Radar detectors shall comply with the emission limits in paragraph (a) of this section over the frequency range of 11.7–12.2 GHz.

[54 FR 17714, Apr. 25, 1989, as amended at 56 FR 373, Jan. 4, 1991; 58 FR 51249, Oct. 1, 1993; 66 FR 19098, Apr. 13, 2001; 67 FR 48993, July 29, 2002; 69 FR 2849, Jan. 21, 2004; 80 FR 33447, June 12, 2015]

§ 15.111 Antenna power conduction limits for receivers.

(a) In addition to the radiated emission limits, receivers that operate (tune) in the frequency range 30 to 960 MHz and CB receivers that provide terminals for the connection of an external receiving antenna may be tested to demonstrate compliance with the provisions of §15.109 with the antenna terminals shielded and terminated with a resistive termination equal to the impedance specified for the antenna, provided these receivers also comply with the following: With the receiver antenna terminal connected to a resistive termination equal to the impedance specified or employed for the antenna, the power at the antenna terminal at any frequency within the range of

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measurements specified in §15.33 shall not exceed 2.0 nanowatts.

(b) CB receivers and receivers that operate (tune) in the frequency range 30 to 960 MHz that are provided only with a permanently attached antenna shall comply with the radiated emission limitations in this part, as measured with the antenna attached.

§ 15.113 Power line carrier systems.

Power line carrier systems, as defined in §15.3(t), are subject only to the following requirements:

(a) A power utility operating a power line carrier system shall submit the details of all existing systems plus any proposed new systems or changes to existing systems to an industry-operated entity as set forth in §90.35(g) of this chapter. No notification to the FCC is required.

(b) The operating parameters of a power line carrier system (particularly the frequency) shall be selected to achieve the highest practical degree of compatibility with authorized or licensed users of the radio spectrum. The signals from this operation shall be contained within the frequency band 9 kHz to 490 kHz. A power line carrier system shall operate on an unprotected, non-interference basis in accordance with §15.5 of this part. If harmful interference occurs, the electric power utility shall discontinue use or adjust its power line carrier operation, as required, to remedy the interference. Particular attention should be paid to the possibility of interference to Loran C operations at 100 kHz.

(c) Power line carrier system apparatus shall be operated with the minimum power possible to accomplish the desired purpose. No equipment authorization is required.

(d) The best engineering principles shall be used in the generation of radio frequency currents by power line carrier systems to guard against harmful interference to authorized radio users, particularly on the fundamental and harmonic frequencies.

(e) Power line carrier system apparatus shall conform to such engineering standards as may be promulgated by the Commission. In addition, such systems should adhere to industry ap-

proved standards designed to enhance the use of power line carrier systems.

(f) The provisions of this section apply only to systems operated by a power utility for general supervision of the power system and do not permit operation on electric lines which connect the distribution substation to the customer or house wiring. Such operation can be conducted under the other provisions of this part.

[54 FR 17714, Apr. 25, 1989; 54 FR 32339, Aug. 7, 1989; 75 FR 63031, Oct. 13, 2010]

§ 15.115 TV interface devices, including cable system terminal devices.

(a) Measurements of the radiated emissions of a TV interface device shall be conducted with the output terminal(s) of the device terminated by a resistance equal to the rated output impedance. The emanations of a TV interface device incorporating an intentional radiator shall not exceed the limits in §15.109 or subpart C of this part, whichever is higher for each frequency. Where it is possible to determine which portion of the device is contributing a particular radio frequency emission, the emissions from the TV interface device portion shall comply with the emission limits in §15.109, and the emissions from the intentional radiator shall comply with subpart C of this part.

(b) Output signal limits:

(1) At any RF output terminal, the maximum measured RMS voltage, in microvolts, corresponding to the peak envelope power of the modulated signal during maximum amplitude peaks across a resistance (R in ohms) matching the rated output impedance of the TV interface device, shall not exceed the following:

(i) For a cable system terminal device or a TV interface device used with a master antenna, 692.8 times the square root of (R) for the video signal and 155 times the square root of (R) for the audio signal.

(ii) For all other TV interface devices, 346.4 times the square root of (R) for the video signal and 77.5 times the square root of (R) for the audio signal.

(2) At any RF output terminal, the maximum measured RMS voltage, in microvolts, corresponding to the peak envelope power of the modulated signal

during maximum amplitude peaks across a resistance (R in ohms) matching the rated output impedance of the TV interface device, of any emission appearing on frequencies removed by more than 4.6 MHz below or 7.4 MHz above the video carrier frequency on which the TV interface device is operated shall not exceed the following:

(i) For a cable system terminal device or a TV interface device used with a master antenna, 692.8 times the square root of (R).

(ii) For all other TV interface devices, 10.95 times the square root of (R).

(3) The term *master antenna* used in this section refers to TV interface devices employed for central distribution of television or other video signals within a building. Such TV interface devices must be designed to:

(i) Distribute multiple television signals at the same time;

(ii) Distribute such signals by cable to outlets or TV receivers in multiple rooms in the building in which the TV interface devices are installed; and,

(iii) Distribute all over-the-air or cable signals.

NOTE: Cable-ready video cassette recorders continue to be subject to the provisions for general TV interface devices.

(c) A TV interface device shall be equipped with a transfer switch for connecting the antenna terminals of a receiver selectively either to the receiving antenna or to the radio frequency output of the TV interface device, subject to the following:

(1) When measured in any of its set positions, transfer switches shall comply with the following requirements:

(i) For a cable system terminal device or a TV interface device equipped for use with a cable system or a master antenna, as defined in paragraph (b)(3) of this section, the isolation between the antenna and cable input terminals shall be at least 80 dB from 54 MHz to 216 MHz, at least 60 dB from 216 MHz to 550 MHz and at least 55 dB from 550 MHz to 806 MHz. The 80 dB standard applies at 216 MHz and the 60 dB standard applies at 550 MHz. In the case of a transfer switch requiring a power source, the required isolation shall be maintained in the event the device is not connected to a power source or power is interrupted.

(ii) For all other TV interface devices, the maximum voltage, corresponding to the peak envelope power of the modulated video signal during maximum amplitude peaks, in microvolts, appearing at the receiving antenna input terminals when terminated with a resistance (R in ohms) matching the rated impedance of the antenna input of the switch, shall not exceed 0.346 times the square root of (R).

(iii) Measurement to determine compliance with the transfer switch limits shall be made using a connecting cable, where required, between the TV interface device and the transfer switch of the type and length:

(A) Provided with the TV interface device,

(B) Recommended in the instruction manual, or

(C) Normally employed by the consumer.

(2) A TV interface device shall be designed and constructed, to the extent practicable, so as to preclude the possibility that the consumer may inadvertently attach the output of the device to the receiving antenna, if any, without first going through the transfer switch.

(3) A transfer switch is not required for a TV interface device that, when connected, results in the user no longer having any need to receive standard over-the-air broadcast signals via a separate antenna. A transfer switch is not required to be marketed with a cable system terminal device unless that device provides for the connection of an external antenna. A transfer switch is not required for a device that is intended to be used as an accessory to an authorized TV interface device.

(4) An actual transfer switch is not required for a TV interface device, including a cable system terminal device, that has an antenna input terminal(s); provided, the circuitry following the antenna input terminal(s) has sufficient bandwidth to allow the reception of all TV broadcast channels authorized under part 73 of this chapter and: For a cable system terminal device that can alternate between the reception of cable television service and an antenna, compliance with the isolation requirement specified in paragraph

(c)(1)(i) of this section can be demonstrated; and, for all other TV interface devices, the maximum voltage appearing at the antenna terminal(s) does not exceed the limit in paragraph (c)(1)(ii) of this section.

(5) If a transfer switch is not required, the following label shall be used in addition to the label shown in §15.19(a):

This device is intended to be attached to a receiver that is not used to receive over-the-air broadcast signals. Connection of this device in any other fashion may cause harmful interference to radio communications and is in violation of the FCC Rules, part 15.

(d) A TV interface device, including a cable system terminal device, shall incorporate circuitry to automatically prevent emanations from the device from exceeding the technical specifications in this part. These circuits shall be adequate to accomplish their functions when the TV interface device is presented, if applicable, with video input signal levels in the range of one to five volts; this requirement is not applicable to a TV interface device that uses a built-in signal source and has no provisions for the connection of an external signal source. For devices that contain provisions for an external signal source but do not contain provisions for the input of an external baseband signal, e.g., some cable system terminal devices, compliance with the provisions of this paragraph shall be demonstrated with a radio frequency input signal of 0 to 25 dBmV.

(e) For cable system terminal devices and TV interface devices used with a master antenna, as defined in paragraph (b)(3) of this section, the holder of the grant of authorization shall specify in the instruction manual or pamphlet, if a manual is not provided, the types of wires or coaxial cables necessary to ensure that the unit complies with the requirements of this part. The holder of the grant of authorization must comply with the provisions of §15.27. For all other TV interface devices, the wires or coaxial cables used to couple the output signals to the TV receiver shall be provided by the responsible party.

(f) A TV interface device which is submitted to the Commission as a composite device in a single enclosure con-

taining a RF modulator, video source and other component devices shall be submitted on a single application (FCC Form 731) and shall be authorized as a single device.

(g) An external device or accessory that is intended to be attached to a TV interface device shall comply with the technical and administrative requirements set out in the rules under which it operates. For example, a personal computer must be certificated to show compliance with the regulations for digital devices.

(h) Stand-alone switches used to alternate between cable service and an antenna shall provide isolation between the antenna and cable input terminals that is at least 80 dB from 54 MHz to 216 MHz, at least 60 dB from 216 MHz to 550 MHz and at least 55 dB from 550 MHz to 806 MHz. The 80 dB standard applies at 216 MHz and the 60 dB standard applies at 550 MHz. In the case of stand-alone switches requiring a power source, the required isolation shall be maintained in the event the device is not connected to a power source or power is interrupted.

(i) Switches and other devices intended to be used to by-pass the processing circuitry of a cable system terminal device, whether internal to such a terminal device or a stand-alone unit, shall not attenuate the input signal more than 6 dB from 54 MHz to 550 MHz, or more than 8 dB from 550 MHz to 804 MHz. The 6 dB standard applies at 550 MHz.

[54 FR 17714, Apr. 25, 1989, as amended at 57 FR 33448, July 29, 1992; 59 FR 25341, May 16, 1994; 61 FR 18509, Apr. 26, 1996; 77 FR 4913, Feb. 1, 2012]

§ 15.117 TV broadcast receivers.

(a) All TV broadcast receivers shipped in interstate commerce or imported into the United States, for sale or resale to the public, shall comply with the provisions of this section, except that paragraphs (f) and (g) of this section shall not apply to the features of such sets that provide for reception of digital television signals. The reference in this section to TV broadcast receivers also includes devices, such as TV interface devices and set-top devices that are intended to provide audio-video signals to a video monitor,

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that incorporate the tuner portion of a TV broadcast receiver and that are equipped with an antenna or antenna terminals that can be used for off-the-air reception of TV broadcast signals, as authorized under part 73 of this chapter.

(b) TV broadcast receivers shall be capable of adequately receiving all channels allocated by the Commission to the television broadcast service.

(c) On a given receiver, use of the UHF and VHF tuning systems shall provide approximately the same degree of tuning accuracy with approximately the same expenditure of time and effort: *Provided, however,* That this requirement will be considered to be met if the need for routine fine tuning is eliminated on UHF channels.

(1) *Basic tuning mechanism.* If a TV broadcast receiver is equipped to provide for repeated access to VHF television channels at discrete tuning positions, that receiver shall be equipped to provide for repeated access to a minimum of six UHF television channels at discrete tuning positions. Unless a discrete tuning position is provided for each channel allocated to UHF television, each position shall be readily adjustable to a particular UHF channel by the user without the use of tools. If 12 or fewer discrete tuning positions are provided, each position shall be adjustable to receive any channel allocated to UHF television.

NOTE: The combination of detented rotary switch and pushbutton controls is acceptable, provided UHF channels, after their initial selection, can be accurately tuned with an expenditure of time and effort approximately the same as that used in accurately tuning VHF channels. A UHF tuning system comprising five pushbuttons and a separate manual tuning knob is considered to provide repeated access to six channels at discrete tuning positions. A one-knob (VHF/UHF) tuning system providing repeated access to 11 or more discrete tuning positions is also acceptable, provided each of the tuning positions is readily adjustable, without the use of tools, to receive any UHF channel.

(2) *Tuning controls and channel readout.* UHF tuning controls and channel readout on a given receiver shall be comparable in size, location, accessibility and legibility to VHF controls and readout on that receiver.

NOTE: Differences between UHF and VHF channel readout that follow directly from the larger number of UHF television channels available are acceptable if it is clear that a good faith effort to comply with the provisions of this section has been made.

(d) If equipment and controls that tend to simplify, expedite or perfect the reception of television signals (e.g., AFC, visual aids, remote control, or signal seeking capability referred to generally as tuning aids) are incorporated into the VHF portion of a TV broadcast receiver, tuning aids of the same type and comparable capability and quality shall be provided for the UHF portion of that receiver.

(e) If a television receiver has an antenna affixed to the VHF antenna terminals, it must have an antenna designed for and capable of receiving all UHF television channels affixed to the UHF antenna terminals. If a VHF antenna is provided with but not affixed to a receiver, a UHF antenna shall be provided with the receiver.

(f) The picture sensitivity of a TV broadcast receiver averaged for all channels between 14 and 69 inclusive shall not be more than 8dB larger than the peak picture sensitivity of that receiver averaged for all channels between 2 and 13 inclusive.

(g) The noise figure for any television channel 14 to 69 inclusive shall not exceed 14 dB. A TV receiver model is considered to comply with this noise figure if the maximum noise figure for channels 14–69 inclusive of 97.5% of all receivers within that model does not exceed 14 dB.

(1) The responsible party shall measure the noise figure of a number of UHF channels of the test sample to give reasonable assurance that the UHF noise figure for each channel complies with the above limit.

(2) The responsible party shall insert in his files a statement explaining the basis on which it will rely to ensure that at least 97.5% of all production units of the test sample that are manufactured have a noise figure of no greater than 14 dB.

(3) [Reserved]

(4) In the case of a TV tuner built-in as part of a video tape recorder that

uses a power splitter between the antenna terminals of the video tape recorder and the input terminals of the TV tuner or a TV broadcast receiver that uses a power splitter between the antenna terminals of two or more UHF tuners contained within that receiver, 4 dB may be subtracted from the noise figure measured at the antenna terminals of the video tape recorder or TV broadcast receiver for determining compliance of the UHF tuner(s) with the 14 dB noise figure limit.

(h) *Digital television reception capability.* TV broadcast receivers are required only to provide useable picture and sound commensurate with their video and audio capabilities when receiving digital television signals.

(i) *Digital television reception requirement.* (1) Responsible parties, as defined in § 2.909 of this chapter, are required to equip with DTV tuners new TV broadcast receivers that are shipped in interstate commerce or imported from any foreign country into the United States and for which they are responsible to comply with the provisions of this section. For purposes of this section, the term "TV broadcast receivers" includes other video devices (videocassette recorders (VCRs), digital video recorders such as hard drive and DVD recorders, etc.) that receive television signals.

(2) The requirement to include digital television reception capability in new TV broadcast receivers does not apply to devices such as mobile telephones and personal digital assistants where such devices do not include the capability to receive TV service on the frequencies allocated for broadcast television service.

(j) For a TV broadcast receiver equipped with a cable input selector switch, the selector switch shall provide, in any of its set positions, isolation between the antenna and cable input terminals of at least 80 dB from 54 MHz to 216 MHz, at least 60 dB from 216 MHz to 550 MHz and at least 55 dB from 550 MHz to 806 MHz. The 80 dB standard applies at 216 MHz and the 60 dB standard applies at 550 MHz. In the case of a selector switch requiring a power source, the required isolation shall be maintained in the event the device is not connected to a power

source or power is interrupted. An actual switch that can alternate between reception of cable television service and an antenna is not required for a TV broadcast receiver, provided compliance with the isolation requirement specified in this paragraph can be demonstrated and the circuitry following the antenna input terminal(s) has sufficient band-width to allow the reception of all TV broadcast channels authorized under this chapter.

(k) The following requirements apply to all responsible parties, as defined in § 2.909 of this chapter, and any person that displays or offers for sale or rent television receiving equipment that is not capable of receiving, decoding and tuning digital signals.

(1) Such parties and persons shall place conspicuously and in close proximity to such television broadcast receivers a sign containing, in clear and conspicuous print, the Consumer Alert disclosure text required by paragraph (k)(3) of this section. The text should be in a size of type large enough to be clear, conspicuous and readily legible, consistent with the dimensions of the equipment and the label. The information may be printed on a transparent material and affixed to the screen, if the receiver includes a display, in a manner that is removable by the consumer and does not obscure the picture, or, if the receiver does not include a display, in a prominent location on the device, such as on the top or front of the device, when displayed for sale, or the information in this format may be displayed separately immediately adjacent to each television broadcast receiver offered for sale and clearly associated with the analog-only model to which it pertains.

(2) If such parties and persons display or offer for sale or rent such television broadcast receivers via direct mail, catalog, or electronic means, they shall prominently display in close proximity to the images or descriptions of such television broadcast receivers, in clear and conspicuous print, the Consumer Alert disclosure text required by paragraph (k)(3) of this section. The text should be in a size large enough to be clear, conspicuous, and readily legible, consistent with the dimensions of the advertisement or description.

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(3) *Consumer alert.* This television receiver has only an analog broadcast tuner and will require a converter box after February 17, 2009, to receive over-the-air broadcasts with an antenna because of the Nation's transition to digital broadcasting. Analog-only TVs should continue to work as before with cable and satellite TV services, gaming consoles, VCRs, DVD players, and similar products. For more information, call the Federal Communications Commission at 1-888-225-5322 (TTY: 1-888-835-5322) or visit the Commission's digital television Web site at: <http://www.dtv.gov>.

[54 FR 17714, Apr. 25, 1993, as amended at 59 FR 25341, May 16, 1994; 61 FR 30532, June 17, 1996; 67 FR 63294, Oct. 11, 2002; 70 FR 38804, July 6, 2005; 70 FR 75743, Dec. 21, 2005; 72 FR 26560, May 10, 2007; 73 FR 5681, Jan. 30, 2008; 77 FR 4913, Feb. 1, 2012]

§ 15.118 Cable ready consumer electronics equipment.

(a) All consumer electronics TV receiving equipment marketed in the United States as cable ready or cable compatible shall comply with the provisions of this section. Consumer electronics TV receiving equipment that includes features intended for use with cable service but does not fully comply with the provisions of this section are subject to the labelling requirements of § 15.19(d). Until such time as generally accepted testing standards are developed, paragraphs (c) and (d) of this section will apply only to the analog portion of covered consumer electronics TV receiving equipment.

(b) Cable ready consumer electronics equipment shall be capable of receiving all NTSC or similar video channels on channels 1 through 125 of the channel allocation plan set forth in CEA-542-B: "CEA Standard: Cable Television Channel Identification Plan," (incorporated by reference, see § 15.38).

(c) Cable ready consumer electronics equipment must meet the following technical performance requirements. Compliance with these requirements shall be determined by performing measurements at the unfiltered IF output port. Where appropriate, the Commission will consider allowing alternative measurement methods.

(1) *Adjacent channel interference.* In the presence of a lower adjacent channel CW signal that is 1.5 MHz below the desired visual carrier in frequency and 10 dB below the desired visual carrier in amplitude, spurious signals within the IF passband shall be attenuated at least 55 dB below the visual carrier of the desired signal. The desired input signal shall be an NTSC visual carrier modulated with a 10 IRE flat field with color burst and the aural carrier which is 10 dB below the visual carrier should be unmodulated. Measurements are to be performed for input signal levels of 0 dBmV and + 15 dBmV, with the receiver tuned to ten evenly spaced EIA IS-132 channels covering the band 54 MHz to 804 MHz.

(2) *Image channel interference.* Image channel interference within the IF passband shall be attenuated below the visual carrier of the desired channel by at least 60 dB from 54 MHz to 714 MHz and 50 dB from 714 MHz to 804 MHz. The 60 dB standard applies at 714 MHz. In testing for compliance with this standard, the desired input signal is to be an NTSC signal on which the visual carrier is modulated with a 10 IRE flat field with color burst and the aural carrier is unmodulated and 10 dB below the visual carrier. The undesired test signal shall be a CW signal equal in amplitude to the desired visual carrier and located 90 MHz above the visual carrier frequency of the desired channel. Measurements shall be performed for input signals of 0 dBmV and + 15 dBmV, with the receiver tuned to at least ten evenly spaced EIA IS-132 channels covering the band 54 MHz to 804 MHz.

(3) *Direct pickup interference.* The direct pickup (DPU) of a co-channel interfering ambient field by a cable ready device shall not exceed the following criteria. The ratio of the desired to undesired signal levels at the IF passband on each channel shall be at least 45 dB. The average ratio over the six channels shall be at least 50 dB. The desired input signal shall be an NTSC signal having a visual carrier level of 0 dBmV. The visual carrier is modulated with a 10 IRE flat field with color burst, visual to aural carrier ratio of 10 dB, aural carrier unmodulated. The equipment under test (EUT) shall be

placed on a rotatable table that is one meter in height. Any excess length of the power cord and other connecting leads shall be coiled on the floor under the table. The EUT shall be immersed in a horizontally polarized uniform CW field of 100 mV/m at a frequency 2.55 MHz above the visual carrier of the EUT tuned channel. Measurements shall be made with the EUT tuned to six EIA IS-132 channels, two each in the low VHF, high VHF and UHF broadcast bands. On each channel, the levels at the IF passband due to the desired and interfering signals are to be measured.

(4) *Tuner overload.* Spurious signals within the IF passband shall be attenuated at least 55 dB below the visual carrier of the desired channel using a comb-like spectrum input with each visual carrier signal individually set at + 15 dBmV from 54 to 550 MHz. The desired input signal is to be an NTSC signal on which the visual carrier is modulated with a 10 IRE flat field with color burst and the aural carrier is unmodulated and 10 dB below the visual carrier. Measurements shall be made with the receiver tuned to at least seven evenly spaced EIA IS-132 channels covering the band 54 MHz to 550 MHz. In addition, spurious signals within the IF passband shall be attenuated at least 51 dB below the visual carrier of the desired channel using a comb spectrum input with each signal individually set at + 15 dBmV from 550 to 804 MHz. Measurements shall be made with the receiver tuned to at least three evenly spaced EIA IS-132 channels covering the band 550 MHz to 804 MHz.

(5) *Cable input conducted emissions.* (i) Conducted spurious emissions that appear at the cable input to the device must meet the following criteria. The input shall be an NTSC video carrier modulated with a 10 IRE flat field with color burst at a level of 0 dBmV and with a visual to aural ratio of 10 dB. The aural carrier shall be unmodulated. The peak level of the spurious signals will be measured using a spectrum analyzer connected by a directional coupler to the cable input of the equipment under test. Spurious signal levels must not exceed the limits in the following table:

From 54 MHz up to and including 300 MHz-	26 dBmV
From 300 MHz up to and including 450 MHz-	20 dBmV
From 450 MHz up to and including 804 MHz-	15 dBmV

(ii) The average of the measurements on multiple channels from 450 MHz up to and including 804 MHz shall be no greater than -20 dBmV. Measurements shall be made with the receiver tuned to at least four EIA IS-132 channels in each of the above bands. The test channels are to be evenly distributed across each of the bands. Measurements for conducted emissions caused by sources internal to the device are to be made in a shielded room. Measurements for conducted emissions caused by external signal sources shall be made in an ambient RF field whose field strength is 100 mV/m, following the same test conditions as described in paragraph (c)(3) of this section.

(d) The field strength of radiated emissions from cable ready consumer electronics equipment shall not exceed the limits in §15.109(a) when measured in accordance with the applicable procedures specified in §§ 15.31 and 15.35 for unintentional radiators, with the following modifications. During testing the NTSC input signal level is to be + 15 dBmV, with a visual to aural ratio of 10 dB. The visual carrier is to be modulated by a 10 IRE flat field with color burst; the aural carrier is to be unmodulated. Measurements are to be taken on six EIA IS-132 channels evenly spaced across the required RF input range of the equipment under test.

[59 FR 25341, May 16, 1994, as amended at 61 FR 18509, Apr. 26, 1996; 65 FR 64391, Oct. 27, 2000; 68 FR 68546, Dec. 9, 2003; 69 FR 2849, Jan. 21, 2004; 69 FR 57861, Sept. 28, 2004; 77 FR 4913, Feb. 1, 2012]

§ 15.119 [Reserved]

§ 15.120 Program blocking technology requirements for television receivers.

(a) Effective July 1, 1999, manufacturers of television broadcast receivers as defined in section 15.3(w) of this chapter, including personal computer systems meeting that definition, must ensure that one-half of their product models with picture screens 33 cm (13 in) or larger in diameter shipped in

interstate commerce or manufactured in the United States comply with the provisions of paragraphs (c), (d), and (e) of this section.

NOTE: This paragraph places no restrictions on the shipping or sale of television receivers that were manufactured before July 1999.

(b) All TV broadcast receivers as defined in §15.3(w), including personal computer systems meeting that definition, with picture screens 33 cm (13 in) or larger, measured diagonally, or with displays in the 16:9 aspect ratio that are 19.8 cm (7.8 in) or greater in height and digital television receivers without an associated display device shipped in interstate commerce or manufactured in the United States shall comply with the provisions of paragraphs (c), (d), and (e) of this section.

(c) *Transmission format.* (1) Analog television program rating information shall be transmitted on line 21 of field 2 of the vertical blanking interval of television signals, in accordance with §73.682(a)(22) of this chapter.

(2) Digital television program rating information shall be transmitted in digital television signals in accordance with §73.682(d) of this chapter.

(d) *Operation.* (1) Analog television receivers will receive program ratings transmitted pursuant to EIA-744: “Transport of Content Advisory Information Using Extended Data Service (XDS)” (incorporated by reference, see §15.38) and EIA-608: “Recommended Practice for Line 21 Data Service” (incorporated by reference, see §15.38). Blocking of programs shall occur when a program rating is received that meets the pre-determined user requirements.

(2) Digital television receivers shall react in a similar manner as analog televisions when programmed to block specific rating categories. Digital television receivers will receive program rating descriptors transmitted pursuant to industry standard EIA/CEA-766-A “U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65-A Program and System Information Protocol (PSIP),” 2001 (incorporated by reference, see §15.38). Blocking of programs shall occur when a program rat-

ing is received that meets the pre-determined user requirements. Digital television receivers shall be able to respond to changes in the content advisory rating system.

(e) All television receivers as described in paragraph (a) of this section shall block programming as follows:

(1) *Channel Blocking.* Channel Blocking should occur as soon as a program rating packet with the appropriate Content Advisory or MPAA rating level is received. Program blocking is described as a receiver performing all of the following:

- Muting the program audio.
- Rendering the video black or otherwise indecipherable.
- Eliminating program-related captions.

(2) *Default State.* The default state of a receiver (*i.e.*, as provided to the consumer) should not block unrated programs. However, it is permissible to include features that allow the user to reprogram the receiver to block programs that are not rated.

(3) *Picture-In-Picture (PIP).* If a receiver has the ability to decode program-related rating information for the Picture-In-Picture (PIP) video signal, then it should block the PIP channel in the same manner as the main channel. If the receiver does not have the ability to decode PIP program-related rating information, then it should block or otherwise disable the PIP if the viewer has enabled program blocking.

(4) *Selection of Ratings.* Each television receiver, in accordance with user input, shall block programming based on the age based ratings, the content based ratings, or a combination of the two.

(i) If the user chooses to block programming according to its age based rating level, the receiver must have the ability to automatically block programs with a more restrictive age based rating. For example, if all shows with an age-based rating of TV-PG have been selected for blocking, the user should be able to automatically block programs with the more restrictive ratings of TV-14 and TV-MA.

(ii) If the user chooses to block programming according to a combination of age based and content based ratings the receiver must have the ability to

automatically block programming with a more restrictive age rating but a similar content rating. For example, if all shows rated TV-PG-V have been selected for blocking, the user should be able to block automatically shows with the more restrictive ratings of TV-14-V and TV-MA-V.

(iii) The user should have the capability of overriding the automatic blocking described in paragraphs (e)(4)(i) and (4)(ii) of this section.

[63 FR 20133, Apr. 23, 1998, as amended at 68 FR 68546, Dec. 9, 2003; 69 FR 2849, Jan. 21, 2004; 69 FR 59534, Oct. 4, 2004; 73 FR 5682, Jan. 30, 2008; 74 FR 63079, Dec. 2, 2009; 77 FR 4913, Feb. 1, 2012]

§ 15.121 Scanning receivers and frequency converters used with scanning receivers.

(a) Except as provided in paragraph (c) of this section, scanning receivers and frequency converters designed or marketed for use with scanning receivers, shall:

(1) Be incapable of operating (tuning), or readily being altered by the user to operate, within the frequency bands allocated to the Cellular Radiotelephone Service in part 22 of this chapter (cellular telephone bands). Scanning receivers capable of “readily being altered by the user” include, but are not limited to, those for which the ability to receive transmissions in the cellular telephone bands can be added by clipping the leads of, or installing, a simple component such as a diode, resistor or jumper wire; replacing a plug-in semiconductor chip; or programming a semiconductor chip using special access codes or an external device, such as a personal computer. Scanning receivers, and frequency converters designed for use with scanning receivers, also shall be incapable of converting digital cellular communication transmissions to analog voice audio.

(2) Be designed so that the tuning, control and filtering circuitry is inaccessible. The design must be such that any attempts to modify the equipment to receive transmissions from the Cellular Radiotelephone Service likely will render the receiver inoperable.

(b) Except as provided in paragraph (c) of this section, scanning receivers shall reject any signals from the Cel-

lular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

(c) Scanning receivers and frequency converters designed or marketed for use with scanning receivers, are not subject to the requirements of paragraphs (a) and (b) of this section provided that they are manufactured exclusively for, and marketed exclusively to, entities described in 18 U.S.C. 2512(2), or are marketed exclusively as test equipment pursuant to § 15.3(dd).

(d) Modification of a scanning receiver to receive transmissions from Cellular Radiotelephone Service frequency bands will be considered to constitute manufacture of such equipment. This includes any individual, individuals, entity or organization that modifies one or more scanners. Any modification to a scanning receiver to receive transmissions from the Cellular Radiotelephone Service frequency bands voids the certification of the scanning receiver, regardless of the date of manufacture of the original unit. In addition, the provisions of § 15.23 shall not be interpreted as permitting modification of a scanning receiver to receive Cellular Radiotelephone Service transmissions.

(e) Scanning receivers and frequency converters designed for use with scanning receivers shall not be assembled from kits or marketed in kit form unless they comply with the requirements in paragraph (a) through (c) of this section.

(f) Scanning receivers shall have a label permanently affixed to the product, and this label shall be readily visible to the purchaser at the time of purchase. The label shall read as follows: **WARNING: MODIFICATION OF THIS DEVICE TO RECEIVE CELLULAR RADIOTELEPHONE SERVICE SIGNALS IS PROHIBITED UNDER FCC RULES AND FEDERAL LAW.**

(1) “Permanently affixed” means that the label is etched, engraved, stamped, silkscreened, indelible printed or otherwise permanently marked on a permanently attached part of the equipment or on a nameplate of metal,

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plastic or other material fastened to the equipment by welding, riveting, or permanent adhesive. The label shall be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable. The label shall not be a stick-on, paper label.

(2) When the device is so small that it is not practicable to place the warning label on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user and shall also be placed on the container in which the device is marketed. However, the FCC identifier must be displayed on the device.

[64 FR 22561, Apr. 27, 1999, as amended at 66 FR 32582, June 15, 2001]

§ 15.122 [Reserved]

§ 15.123 Labeling of digital cable ready products.

(a) The requirements of this section shall apply to unidirectional digital cable products. Unidirectional digital cable products are one-way devices that accept a Point of Deployment module (POD) and which include, but are not limited to televisions, set-top-boxes and recording devices connected to digital cable systems. Unidirectional digital cable products do not include interactive two-way digital television products.

(b) A unidirectional digital cable product may not be labeled with or marketed using the term “digital cable ready,” or other terminology that describes the device as “cable ready” or “cable compatible,” or otherwise indicates that the device accepts a POD or conveys the impression that the device is compatible with digital cable service unless it implements at a minimum the following features:

(1) Tunes NTSC analog channels transmitted in-the-clear.

(2) Tunes digital channels that are transmitted in compliance with SCTE 40 2003 (formerly DVS 313): “Digital Cable Network Interface Standard” (incorporated by reference, *see* §15.38), provided, however, that with respect to Table B.11 of that standard, the phase noise requirement shall be -86 dB/Hz

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including both in-the-clear channels and channels that are subject to conditional access.

(3) Allows navigation of channels based on channel information (virtual channel map and source names) provided through the cable system in compliance with ANSI/SCTE 65 2002 (formerly DVS 234): “Service Information Delivered Out-of-Band for Digital Cable Television” (incorporated by reference, *see* §15.38), and/or PSIP-enabled navigation (ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television” (incorporated by reference, *see* §15.38)).

(4) Includes the POD-Host Interface specified in SCTE 28 2003 (formerly DVS 295): “Host-POD Interface Standard” (incorporated by reference, *see* §15.38), and SCTE 41 2003 (formerly DVS 301): “POD Copy Protection System” (incorporated by reference, *see* §15.38), or implementation of a more advanced POD-Host Interface based on successor standards. Support for Internet protocol flows is not required.

(5) Responds to emergency alerts that are transmitted in compliance with ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television” (incorporated by reference, *see* §15.38).

(6) In addition to the requirements of paragraphs (b)(1) through (5) of this section, a unidirectional digital cable television may not be labeled or marketed as digital cable ready or with other terminology as described in paragraph (b) of this section, unless it includes a DTV broadcast tuner as set forth in §15.117(i) and employs at least one interface specified in paragraphs (b)(6)(i) and (ii) of this section:

(i) For 480p grade unidirectional digital cable televisions, either a DVI/HDCP, HDMI/HDCP, or 480p Y,Pb,Pr interface.

(ii) For 720p/1080i grade unidirectional digital cable televisions, either a DVI/HDCP or HDMI/HDCP interface.

(c) Before a manufacturer’s or importer’s first unidirectional digital cable product may be labeled or marketed as digital cable ready or with

other terminology as described in paragraph (b) of this section, the manufacturer or importer shall verify the device as follows:

(1) The manufacturer or importer shall have a sample of its first model of a unidirectional digital cable product tested to show compliance with the procedures set forth in Uni-Dir-PICS-I01-030903: Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma (incorporated by reference, see §15.38) at a qualified test facility. If the model fails to comply, the manufacturer or importer shall have any modifications to the product to correct failures of the procedures in Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 3, 2003 (incorporated by reference, see §15.38) re-tested at a qualified test facility and the product must comply with Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 3, 2003 (incorporated by reference, see §15.38) in accordance with the test procedures set forth in Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device, Acceptance Test Plan,” February 25, 2004 (incorporated by reference, see §15.38) or with M-UDCP-PICS-I04-080225, “Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS,” February 25, 2008 (incorporated by reference, see §15.38) in accordance with the test procedures set forth in TP-ATP-M-UDCP-I05-20080304, “Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan,” March 4, 2008 (incorporated by reference, see §15.38) before the product or any related model may be labeled or marketed. If the manufacturer or importer’s first unidirectional digital cable product is not a television, then that manufacturer or importer’s first model of a unidirectional digital cable product which is a television shall be tested pursuant to this subsection as though it were the first unidirectional digital cable product. A qualified test facility may only require compliance with the procedures set forth in Uni-Dir-PICS-I01-030903: Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma, September 3, 2003

(incorporated by reference, see §15.38). Compliance testing beyond those procedures shall be at the discretion of the manufacturer or importer.

(2) A qualified test facility is a testing laboratory representing cable television system operators serving a majority of the cable television subscribers in the United States or an appropriately qualified independent laboratory with adequate equipment and competent personnel knowledgeable with respect to Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see §15.38); Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device, Acceptance Test Plan,” February 25, 2004 (incorporated by reference, see §15.38); M-UDCP-PICS-I04-080225, “Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS,” February 25, 2008 (incorporated by reference, see §15.38); and TP-ATP-M-UDCP-I05-20080304, “Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan,” March 4, 2008 (incorporated by reference, see §15.38). For any independent testing laboratory to be qualified hereunder such laboratory must ensure that all its decisions are impartial and have a documented structure which safeguards impartiality of the operations of the testing laboratory. In addition, any independent testing laboratory qualified hereunder must not supply or design products of the type it tests, nor provide any other products or services that could compromise confidentiality, objectivity or impartiality of the testing laboratory’s testing process and decisions.

(3) Subsequent to the testing of its initial unidirectional digital cable product model, a manufacturer or importer is not required to have other models of unidirectional digital cable products tested at a qualified test facility for compliance with the procedures of Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see §15.38) unless the first model tested was not a television, in

which event the first television shall be tested as provided in § 15.123(c)(1). The manufacturer or importer shall ensure that all subsequent models of unidirectional digital cable products comply with the procedures in the Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see § 15.38) and all other applicable rules and standards. The manufacturer or importer shall maintain records indicating such compliance in accordance with the verification procedure requirements in part 2, subpart J of this chapter. The manufacturer or importer shall further submit documentation verifying compliance with the procedures in the Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see § 15.38) to the qualified test facility.

(4) Unidirectional digital cable product models must be tested for compliance with Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 3, 2003 (incorporated by reference, see § 15.38) in accordance with Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device Acceptance Test Plan,” February 25, 2004, (incorporated by reference, see § 15.38) or an equivalent test procedure that produces identical pass/fail test results. In the event of any dispute over the applicable results under an equivalent test procedure, the results under Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device Acceptance Test Plan,” February 25, 2004 (incorporated by reference, see § 15.38) shall govern.

(5) This paragraph applies to unidirectional digital cable product models which utilize Point-of-Deployment modules (PODs) in multi-stream mode (M-UDCPs).

(i) The manufacturer or importer shall have a sample of its first model of a M-UDCP tested at a qualified test facility to show compliance with M-UDCP-PICS-I04-080225, “Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS,” February 25, 2008 (incorporated by reference, see § 15.38) as

specified in the procedures set forth in TP-ATP-M-UDCP-I05-20080304, “Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan,” March 4, 2008 (both references incorporated by reference, see § 15.38). If the model fails to comply, the manufacturer or importer shall have retested, at a qualified test facility, a product that complies with Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see § 15.38) in accordance with Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device Acceptance Test Plan,” February 25, 2004, (incorporated by reference, see § 15.38) or an equivalent test procedure that produces identical pass/fail test results before any product or related model may be labeled or marketed. If the manufacturer or importer’s first M-UDCP is not a television, then that manufacturer or importer’s first model of a M-UDCP which is a television shall be tested pursuant to this subsection as though it were the first M-UDCP.

(ii) A qualified test facility is a testing laboratory representing cable television system operators serving a majority of the cable television subscribers in the United States or an appropriately qualified independent laboratory with adequate equipment and competent personnel knowledgeable with Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 03, 2003 (incorporated by reference, see § 15.38); Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device, Acceptance Test Plan,” February 25, 2004 (incorporated by reference, see § 15.38); M-UDCP-PICS-I04-080225, “Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS,” February 25, 2008 (incorporated by reference, see § 15.38); and TP-ATP-M-UDCP-I05-20080304, “Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan,” March 4, 2008 (incorporated by reference, see § 15.38). For any independent testing laboratory to be qualified hereunder such laboratory must ensure that all its decisions are impartial and have a

documented structure which safeguards impartiality of the operations of the testing laboratory. In addition, any independent testing laboratory qualified hereunder must not supply or design products of the type it tests, nor provide any other products or services that could compromise confidentiality, objectivity or impartiality of the testing laboratory's testing process and decisions.

(iii) Subsequent to the successful testing of its initial M-UDCP, a manufacturer or importer is not required to have other M-UDCP models tested at a qualified test facility for compliance with M-UDCP-PICS-I04-080225, "Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS," February 25, 2008 (incorporated by reference, see §15.38) unless the first model tested was not a television, in which event the first television shall be tested as provided in §15.123(c)(5)(i). The manufacturer or importer shall ensure that all subsequent models of M-UDCPs comply with M-UDCP-PICS-I04-080225, "Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS," February 25, 2008 (incorporated by reference, see §15.38) and all other applicable rules and standards. The manufacturer or importer shall maintain records indicating such compliance in accordance with the verification procedure requirements in part 2, subpart J of this chapter. For each M-UDCP model, the manufacturer or importer shall further submit documentation verifying compliance with M-UDCP-PICS-I04-080225, "Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS," February 25, 2008 (incorporated by reference, see §15.38) to the qualified test facility.

(iv) M-UDCPs must be in compliance with M-UDCP-PICS-I04-080225, "Uni-Directional Cable Product Supporting M-Card: Multiple Profiles; Conformance Checklist: PICS," February 25, 2008 (incorporated by reference, see §15.38) in accordance with the procedures set forth in TP-ATP-M-UDCP-I05-20080304, "Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan," March 4, 2008 (incorporated by refer-

ence, see §15.38) or an equivalent test procedure that produces identical pass/fail test results. In the event of any dispute over the applicable results under an equivalent test procedure, the results under TP-ATP-M-UDCP-I05-20080304, "Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan," March 4, 2008 (incorporated by reference, see §15.38) shall govern.

(d) Manufacturers and importers shall provide in appropriate post-sale material that describes the features and functionality of the product, such as the owner's guide, the following language: "This digital television is capable of receiving analog basic, digital basic and digital premium cable television programming by direct connection to a cable system providing such programming. A security card provided by your cable operator is required to view encrypted digital programming. Certain advanced and interactive digital cable services such as video-on-demand, a cable operator's enhanced program guide and data-enhanced television services may require the use of a set-top box. For more information call your local cable operator."

[68 FR 66733, Nov. 28, 2003, as amended at 76 FR 40277, July 8, 2011; 77 FR 4914, Feb. 1, 2012]

Subpart C—Intentional Radiators

§15.201 Equipment authorization requirement.

(a) Intentional radiators operated as carrier current systems, devices operated under the provisions of §§15.211, 15.213, and 15.221, and devices operating below 490 kHz in which all emissions are at least 40 dB below the limits in §15.209 shall be verified pursuant to the procedures in Subpart J of part 2 of this chapter prior to marketing.

(b) Except as otherwise exempted in paragraph (c) of this section and in §15.23 of this part, all intentional radiators operating under the provisions of this part shall be certificated by the Commission pursuant to the procedures in subpart J of part 2 of this chapter prior to marketing.

(c) For devices such as perimeter protection systems which, in accordance